AMENDMENTS TO THE CLAIMS

1. (Currently amended) A substrate for biomolecule microarray comprising one or more spots for immobilizing a biomolecule, in which

said spot for immobilizing a biomolecule protrudes from the surface of the substrate and has a flat surface for spotting on the top thereof and comprises said flat surface for spotting surrounded by a lateral surface that is inclined to said flat surface for spotting at an angle Θ, which spot is hereinafter referred to as a "protruding spot part"; and

at least the surface of the substrate around the protruding spot part~~, the lateral surface of~~ and the protruding spot part, ~~and~~ including the flat surface for spotting and the lateral surface, are comprised of an electrically conductive substance,

wherein said surface of the substrate around the protruding spot part forms a roughly V-shaped bottom surface.

2. (canceled)

3. (Currently amended) A substrate for biomolecule microarray comprising one or more spots for immobilizing a biomolecule, in which

said spot for immobilizing a biomolecule protrudes from the surface of the substrate and has a flat surface for spotting on the top thereof, which spot is hereinafter referred to as a "protruding spot part"; said flat surface for spotting being surrounded by a lateral surface inclined at an angle Θ to said flat surface for spotting;

the protruding spot parts adjacent each other border through the lateral surface of the protruding spot parts; and

at least said lateral surface of the protruding spot part and the flat surface for spotting are comprised of an electrically conductive substance.

4. (Currently amended) The substrate according ~~toclaim~~ to claim 1, wherein said electrically conductive substance is gold, nickel, platinum, silver, titanium, aluminum, stainless steel, copper, electrically conductive oxide, or electrically conductive plastic.

5. (Currently amended) The substrate according ~~toclaim~~ to claim 1, wherein the entire substrate is comprised of an electrically conductive substance, or the substrate has a coated layer of an electrically conductive substance on the surface thereof.

6. (Original) The substrate according to claim 5, wherein the substrate having a coated layer of an electrically conductive substance is comprised of glass, metal, silicon or plastic.

7. (Currently amended) The substrate according ~~toclaim~~ to claim 1, wherein said protruding spot part has a height ranging from 10 to 500 μm.

8. (Currently amended) The substrate according ~~toclaim~~ to claim 1, wherein the angle formed between the flat surface for spotting on the top of said protruding spot part and the lateral surface of said protruding spot part is equal to or greater than 90°.

9. (Currently amended) The substrate according ~~toclaim~~ to claim 1, wherein said flat surface for spotting is a roughened surface.

10. (Previously presented) A biomolecule microarray comprising the substrate according to any one of claims 1 to 9 and at least one biomolecule; in which the biomolecule is immobilized on at least the flat surface for spotting on said substrate.

11. (Currently amended) The biomolecule microarray according to claim 10, wherein said biomolecule is at least one selected from the group consisting of DNA, RNA, PNA, protein, polypeptide, sugar compound, lipid, natural small molecule, and synthetic ~~smallmolecules~~ small molecules.

12. (Currently amended) A device of promoting interaction between biomolecules comprising:

a biomolecule microarray comprising a substrate having one or more spots for immobilizing biomolecules protruding from the surface of the substrate and having a flat surface for spotting on the top thereof, which spots are hereinafter referred to as "protruding spot parts", at least said protruding spot part having a surface of an electrically conductive substance, and a biomolecule being immobilized on the surface of the electrically conductive substance of the flat surface for spotting;

an electrode provided so as to face the surface having the biomolecule-immobilized spots of said microarray; and

a power source for applying an electric field between said microarray and said electrode;

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said substrate has a terminal capable of passing an electric current to said surface of an electrically conductive substance of said protruding spot parts on the surface of said substrate in areas other than the protruding spot parts.

13. (Original) The device according to claim 12, wherein the surface of said substrate in areas other than the protruding spot parts has a coated layer of an electrically conductive substance, said terminal is comprised in said coated layer of an electrically conductive substance or capable of passing an electric current to said coated layer of an electrically conductive substance, and the coated layer of an electrically conductive substance and the surface of an electrically conductive substance of the protruding spot part are provided as an integrated coated layer of an electrically conductive substance.

14. (Previously presented) The device according to claim 12 wherein said biomolecule is at least one selected from the group consisting of DNA, RNA, PNA, proteins, polypeptides, sugar compounds, lipids, natural small molecules, and synthetic small molecules.

15. (Currently amended) The device according ~~toclaim~~ to claim 12, wherein the distance between said flat surface for spotting and the electrode ranges from 1 to 500μm.

16. (Currently amended) The device according ~~toclaim~~ to claim 12, which comprises a nonelectrically conductive spacer between said microarray and the electrode.

17. (Currently amended) The device according ~~toclaim~~ to claim 12, wherein said electrode provided so as to face the surface having the biomolecule spots of the microarray is a transparent electrode.

18. (Currently amended) The device according ~~toclaim~~ to claim 12, which further comprises a temperature control means.

19. (Currently amended) A method of promoting interaction between ~~biomoleculescomprising;~~biomolecules comprising:

placing a solution comprising a target biomolecule between said microarray and said electrode in a device according to claim 12, and

applying an electric field between said microarray and said electrode.

20. (Original) The method according to claim 19, wherein said electric field applied between said microarray and said electrode ranges from 0.001 to 10 MV/m.

21. (Currently amended) The method according to claim 19, wherein said target biomolecule is labeled with ~~afluorophore~~ a fluorophore.

22. (Currently amended) The method according ~~toclaim~~ to claim 19, wherein said solution comprising a target biomolecule comprises at least one buffer substance selected from the group consisting of phenylalanine, histidine, carnosine and arginine.

23. (Original) A method of detecting interaction between biomolecules, comprising detecting using a confocal detector the interaction between a target biomolecule and a biomolecule on each biomolecule-immobilized spot of the microarray according to claim 10, that either lies in an environment permitting interaction of the immobilized biomolecule with the target biomolecule, or has previously lain in an environment permitting interaction of the immobilized biomolecule with the target biomolecule.

24. (canceled)

25. (Currently amended) The method according to claim 23, wherein both of said biomolecule on the biomolecule-immobilized spot and said target biomolecule are labeled with ~~afluorophore~~ a fluorophore.

26. (Currently amended) The method according ~~toclaim~~ to claim 23, wherein, with said confocal detector, said protruding spot parts on the microarray are detected as a reflected image from the difference in intensity of reflected light based on differences in the height and/or shape of the protruding spot parts and other portions on the surface of the microarray.

27. (Original) The method of detecting according to claim 26, wherein the interaction between biomolecules is detected by detecting fluorescence from said protruding spot parts as a reflected image.

28. (Currently amended) A method of promoting interaction between an immobilized biomolecule and a target biomolecule comprising contacting a biomolecule ~~microarraycomprising~~ microarray comprising one or more spots having said biomolecule immobilized thereon with a solution comprising said target biomolecule,

adding phenylalanine to said solution comprising a target biomolecule and applying an electric field to said solution so that the target biomolecule in the solution migrates toward said biomolecule-immobilized spot.

29. (Previously presented) The method according to claim 28, wherein said microarray is one having an electrode, on the surface of a substrate upon which the biomolecule-immobilized spot is provided; an electrode facing said electrode on the substrate is employed; and said electric field is applied between said electrodes in a state where said solution comprising said target biomolecule contacts said two electrodes.

30. (Previously presented) A method of promoting interaction between an immobilized biomolecule and a target biomolecule comprising contacting a microarray comprising a substrate having one or more spots having said biomolecule immobilized thereon with a solution comprising said target biomolecule, wherein

said solution comprising a target biomolecule further comprises at least one buffer substance selected from the group consisting of phenylalanine, histidine, carnosine and arginine,

said substrate is one provided with at least a pair of electrodes on the same surface as the surface on which biomolecule-immobilized spots are provided so that the biomolecule-immobilized spots are located between said pair of electrodes; and

said interaction is promoted by applying an electric field between said electrodes in a state where said solution comprising a target biomolecule contacts with said pair of electrodes.

31. (New) A substrate for biomolecule microarray comprising one or more spots for immobilizing a biomolecule, in which

said spot for immobilizing a biomolecule protrudes from the surface of the substrate and has a flat surface for spotting that is a roughened surface on the top thereof and comprises said flat surface for spotting surrounded by a lateral surface that is inclined to said flat surface for spotting at an angle Θ, which spot is hereinafter referred to as a "protruding spot part"; and

at least the surface of the substrate around the protruding spot part and the protruding spot part, including the flat surface for spotting and the lateral surface, are comprised of an electrically conductive substance.